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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,032	11/17/2000	Thomas Cast	2000-0474D	5234

21034 7590 02/05/2004

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2683

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DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,032

Applicant(s)

CAST ET AL.

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10, 13-16, 19-21 and 25 is/are rejected.
- 7) ☒ Claim(s) 6, 8-12, 17-18 and 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 1-20-04 have been fully considered but they are not persuasive:

1. The examiner notes that objected to material was pointed out in the first Office Action but the applicant has chosen not to rewrite the claims to include said material. A more favorable outcome may occur if the claims are amended per the examiner's suggestions. The "original" rejection is provided below FYI – claim dependencies have changed but technical subject matter has not.

2. The disclosure objection has been overcome.

3. The applicant argues (claim 1) that an "error message" is not taught. The examiner disagrees for several reasons: 1) Firstly, it is widely known in the art that flow control uses "feedback" messages (eg. error messages) to provide information to senders/receivers when congestion occurs – ACK/NAK and Windowing provide a means to "flow control" a messaging system since a transmitter will not send a packet until it receives an ACK and/or said transmitter will not send multiple packets if an ACK is not received when the Window size is larger than one packet, 2) Ross teaches sending a message(s) and monitoring delivery status (figure 5, #140) which reads on sensing if congestion is evident (eg. receives an "error" message), 3) Astrom teaches sensing if a mobile is in operation and then storing any arriving message (which is a form of an error occurring and storing the new message corrects the problem).

4. The applicant argues (claims 13/25) that a threshold is not taught. The examiner disagrees since Ross teaches a step whereby the system waits until a predetermined criteria is satisfied, which reads on a threshold limit.

5. The applicant argues (claims 2/16) that the rejecting further messages transmitted from the message source to the gateway is not taught. The examiner disagrees since, again, flow control would slow down/prevent additional messages from being sent if/when congestion occurs (see #3 above). Further to this point is Blonder who teaches an alternate embodiment that allows a transmitter to route messages via an alternate path when congestion occurs which reads on the claim.

6. The applicant argues (claim 3) that prior art does not teaches throttling error messages. Flow control inherently provides feedback (eg. error) messages (see #3 above).

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7. The applicant argues (claims 4/19) that transmitting with/without flow control is not taught. The examiner disagrees for several reasons, 1) Systems with NO flow control pre-date systems WITH flow control, hence both are known in the art and a system can take advantage of both simultaneously, 2) the argument in #3 above provides the reason for the rejection of using flow control.

8. The applicant argues (claims 5/20) that logging of all events is not taught. The examiner disagrees since hardware vendors typically provide such trouble-shooting tools (ie. the examiner pointed out Microsoft's Event Viewer and Performance Monitor and Cisco's IOS, both of which can log/alert the administrator of problems).

9. The applicant argues (claims 10/14/15) that reducing send rate is not taught. The examiner disagrees since flow control inherently provides for modifying the transmitter's "send rate". A system that utilizes flow control will sense congestion and provide feedback to a transmitter to reduce its send rate (also see #3 above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 13 and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al. US 6,263,212 in view of Astrom US 5,579,372 (hereafter Ross and Astrom).

As per **claims 1, 13 and 25**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach a method for a gateway connecting at least one message source and a primary message center comprising:

Transmitting a data unit associated with the message from the message source to the gateway (C1, L10-25)

But is silent on

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Determining whether the message source has exceeded a threshold value associated with sending messages

Transmitting a response signal from the gateway to the message source indicating an error if the message source has exceeded the threshold value.

With further regard to claim 13, Ross is silent on:

- providing throttle control in a gateway between a message source and a destination message center comprising:

--Determining whether message source has exceeded a throttle control limit

--Transmitting a throttling error to the message source if the message source has exceeded the throttle control limit according to the determining step.

Ross does teach outbound (eg. Message Center to Mobile Unit) flow control (C9, L45-67 to C10, L1-15). One skilled in the art would provide for inbound flow control as well (data links, hardware, etc.). The examiner also takes **Official Notice** that flow control (and/or Quality of Service) is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it (ie. increase bandwidth, use alternate routes, use alternate hardware, etc.).

Astrom teaches flow control for SMS messaging (title and abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that flow control (throttling) is used, to provide "quality of service" for data transmission (ie. flow control, multiple message centers, etc.).

Claims 2-5, 7, 10, 14-16 and 19-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Ross/Astrom in view of Blonder US 5,946,299 (hereafter Blonder).

As per **claims 2 and 16**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 1/15 and message sources/gateways (s) **but are silent on** further comprising:

rejecting further messages transmitted from the message source to the gateway when the determining step indicates that the message source has exceeded the threshold value.

Ross does teach outbound (eg. Message Center to Mobile Unit) flow control (C9, L45-67) whereby a server runs multiple parallel processes capable of handling processing of SMS message (which reads on handling congestion and alternate message center(s) and transmitting to an alternate message center if congestion occurs). The examiner also takes **Official Notice** that flow control (and/or Quality of Service) is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it (ie. increase bandwidth, use alternate routes, use alternate hardware, etc.).

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" which reads on "rejecting some/all messages received at gateway for primary message center (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that congestion status messages are sent and rejecting messages at the primary during flow control, to provide quality of service for data transmission.

As per **claim 3**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 2 and message source/gateway(s) **but are silent on** further comprising:

Transmitting a command status signal indicating a throttling error.

Ross does teach flow control for outbound (eg. Message Center to Mobile Unit) flow control (C9, L45-67) whereby a server runs multiple parallel processes capable of handling processing of SMS message (which reads on handling congestion and alternate message center(s) and transmitting to an alternate message center if congestion occurs). The examiner also takes **Official Notice** that flow control (and/or Quality of Service) is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it (ie. increase bandwidth, use alternate routes, use alternate hardware, etc.). ***Control messages are sent to ensure that the system operates correctly.***

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" which reads on "rejecting some/all messages received at gateway for primary message center (Abstract). One skilled in the art realizes that control messages would be used between the different messaging centers.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that congestion status messages are sent, to provide quality of service for data transmission.

As per **claims 4 and 19**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 3/13 a method for a gateway connecting at least one message source and a primary message center (with or without flow control being present).

As per **claims 5 and 20**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 4/19 and message source/gateway(s) **but are silent on** further comprising:

Logging in the gateway all events associated with determining whether the message source has exceeded the threshold value.

The examiner takes **Official Notice** that engineers provide means for determining if a problem/event is occurring and means for recording/logging the event. This provides the engineer the ability to trouble-shoot problems, determine trends and ultimately better tune the system for optimal operation. Hardware vendors typically supply event recorders in their administrator software (eg. Microsoft's Event Viewer and Performance Monitor). The applicant refers to Cisco hardware (spec. page 71, L2) which provides the IOS to allow the administrator to control and monitor operations of the router.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that events are logged, to provide means for the engineer to record and review the events for troubleshooting/tuning.

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As per **claims 7 and 21**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 3/15 and message source/gateway(s) **but are silent on** further comprising:

Signaling an alarm when the threshold limit is exceeded by a message source.

The examiner takes **Official Notice** that engineers provide means for determining if a problem/event is occurring and providing an alarm to the administrator. This provides the engineer the ability to carry on with normal activities UNTIL alerted to a problem condition. Hardware vendors typically supply event recorders in their administrator software (eg. Microsoft's Event Viewer and Performance Monitor) which can provide alarms to the administrator when limits are exceeded.. The applicant refers to Cisco hardware (spec. page 71, L2) which provides the IOS to allow the administrator to control and monitor operations of the router.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that an alarm is signaled, to provide means for automatic notification that a threshold has been exceeded.

As per **claims 10, 14 and 15**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 3/13 and message source/gateway(s) **but are silent on** further comprising:

A status signal indicating a throttling error further instructs the message source to reduce a message sending rate (claims 10 and 14).

Invoking throttle control if the message source has exceeded the throttle control limit according to the determining step (claim 15).

Ross does teach outbound (eg. Message Center to Mobile Unit) flow control (C9, L45-67 to C10, L1-15). One skilled in the art would provide for inbound flow control as well (data links, hardware, etc.). The examiner also takes **Official Notice** that flow control (and/or Quality of Service) is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it (ie. increase bandwidth, use alternate routes, use alternate hardware, etc.). **Reducing sending rate**

of any/all senders within the system is another way of providing quality of service and reads on the claimed limitation.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that control messages are used to reduce message sending rates, to reduce contention for the bandwidth when it is congested.

Allowable Subject Matter

Claims 6, 8-9, 11-12, 17-18 and 22-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

-- Claim 6 teaches logging time, message source subject to throttle control, number of messages rejected and throttle control limit.

-- Claims 8 and 22 teaches alarm includes time, message source subject to throttle control number of messages rejected and threshold value (Claim 9 depends on claim 8 and claims 23-24 depend on claims 22/23).

-- Claims 11-12 depend on claims 9 and 11.

-- Claim 17 teaches throttle control limit is between .1 messages per second and 500 messages per second (claim 18 depends on claim 17).

Ross does not disclose the above limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

SMD
1-30-04



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